Bozeman Pass Wildlife Linkage and Highway Safety Pilot Study
Quarterly Progress Report # 4 –November 1, 2003 - January 31, 2004

This report was prepared by staff at the Craighead Environmental Research Institute (CERI) for the Montana Department of Transportation and Western Transportation Institute as part of the Bozeman Pass Wildlife Linkage and Highway Safety Pilot Study. 3 February, 2003.

During the fourth quarter of this project, the Bozeman Pass Wildlife Linkage and Highway Safety Pilot Study is in the pre-construction phase of the project. CERI is continuing to collect data on animal-vehicle collisions (Task 1) and documenting animal crossing areas (Task 2) near the milepost 314 MRL bridge.

Animal-vehicle collision monitoring (Task 1)

Volunteers recorded road-kill on a daily basis over Bozeman Pass as they commuted to Bozeman. CERI personnel recorded road-kill on a twice-weekly basis. During this quarterly time period (November 1 to January 31) approximately 34 animals were recorded as road-kills between Bozeman and Livingston using all methods. Locations for road-kills were mapped and entered into the GIS database. Documenting animal-vehicle collisions is still in progress and will continue throughout 2003 and 2004 during the pre-construction phase.

Document Animal Crossings (Task 2)

Four remote cameras in culverts along Rocky Creek were monitored during the period. Event data was collected and photographs were recorded. With the advent of cold weather, animal use of culverts has decreased greatly; raccoons, mink, and rabbits are the primary subjects. Cameras will continue to be monitored during the pre-construction phase (2004-2005).

Wildlife Track Bed

The animal track bed was completed by CERI staff and volunteers during a final work session on October 25. The Montana Department of Transportation Encroachment Permit ID # is FAP I-1G90-6(2), maintenance number 2201 for route I-90: the application is only valid with an approved Right Of Entry Permit that was obtained from Montana Rail Link on September 23. WTI provided filter fabric material to line the track bed, and Bridger Fire provided polaskis and rakes. Once the track bed was completed we began to obtain an accurate record of pre-construction and post-construction use of the underpass. As winter arrived and snow fell we were pleased to discover that we can monitor tracks under most conditions in the snow. We use a garden rake to smooth over tracks after counting. Snow conditions are generally favorable: the main exception is when large amounts of snow and road debris are pushed off the I-90 bridge by snowplows. In general though, tracks are easily observed; almost all use has

been by deer (most likely resident deer). A rough average of about 2 deer/day use the underpass. One set of canid tracks was seen (probably a coyote), and one set of feline tracks in the snow (probably a bobcat). House cat tracks were seen in the sand before the snow came and they were much smaller.

Refine GIS model (Task 3)

During the fourth quarter of 2003, no more work was done on refining the GIS model. As more road-kill data are collected it will be incorporated into the model and evaluated. A scientific paper was written on validating the GIS models using road-kill and winter track data authored by Lance Craighead, Elizabeth Roberts, April Craighead, and Mike Rock. This paper is being submitted to the Journal for Conservation Biology.

Other related activities

CERI personnel met with MDT engineers, WTI personnel, and AWL personnel at the MDT offices in Helena to discuss the earmark appropriation scope of work and budget..

Time spent on each of the above tasks conformed to the planned schedules. Approximately one-tenth of the time planned for these pre-construction data collection activities was completed during this period; to date about 15/29ths of all pre-construction data collection has been completed. Similar amounts of the budget were expended.